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CHARACTERS AND SYNONYMIES AMONG THE GENERA OF ANTS. PART IV. SOME GENERA OF SUBFAMILY MYRMICINAE (HYMENOPTERA: FORMICIDAE)

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ABSTRACT. *Archaeomyrmex* is a new junior synonym of *Myrmecina*, and tribe *Archaeomyrmicini* accordingly is a synonym of *Myrmecini*. *Dodous* is a new junior synonym of *Pristomyrmex*, and the synonymy of *Hyldris* under *Pristomyrmex* is reaffirmed. *Limnomyrmex* is a new junior synonym of *Leptothorax* subgenus *Nesomyrmex*.

The genera considered in this part all belong to subfamily Myrmicinae. My main purpose here is to explain briefly why some new synonymy should be proposed. The taxa concerned have all been studied during the course of the project "a reclassification of the Formicidae," supported by National Science Foundation Grants G-23680, GB-2175, and GB-5574. The taxonomic conclusions will eventually be embodied in a synopsis and illustrated keys to the ant genera of the world. I feel that justification for revisionary changes should be published as the need for the changes becomes clear. In this way, important findings of the study are made available for use by all ant taxonomists without undue delay, and the synoptic parts can be freed from the clutter of many detailed taxonomic arguments.

Myrmecina

Myrmecina Curtis, 1829, Brit. Entom. 6: 226, pl. 265, male. Type species by original designation *Myrmecina latreillii* = *Formica graminicola*. *Archaeomyrmex* Mann, 1921: 448-451. Type species: *Archaeomyrmex cacabau*, by original designation. NEW SYNONYMY.

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The unique type of *A. cacabau* has been searched for in vain in the U. S. National Museum and Museum of Comparative Zoology ant collections, and must be considered lost. Fortunately, Mann's description and figures are reasonably detailed. From them, it is clear that the species is essentially a *Myrmecina*, a fact acknowledged by Mann when he wrote: "The epinotal and petiolar structure are not unlike certain species of *Myrmecina*." Mann emphasized the ventrolateral carina on each side of the head, probably without realizing that this is an invariable character of *Myrmecina*. He also cited the partly smooth, partly costate sculpture of the body, especially the trunk, which does set this species off from the "average" *Myrmecina*. But *Myrmecina* forms with more or less of the head and trunk smooth have not been completely unknown, and they even occur as phenetic variants in species that are usually heavily sculptured in these regions.

Several *Myrmecina* species (at least three of them still undescribed) with predominantly smooth and shining head and trunk are in the MCZ collection. Two of the undescribed species are from the New Hebrides; in each of these, the posterior pair of propodeal teeth is spiniform, but the coarse costate sculpture of the lower pleural areas is preserved, as it is in *cacabau*. Another smooth species has come to me from the Philippines. The geographical and morphological gaps are thus closed between the Fijian and Indo-Australian representatives of what is obviously a single stock. A complete examination of the *A. cacabau* description fails to reveal any character that will separate it from *Myrmecina* at generic level. Together with the two New Hebrides species, *cacabau* should be taken to represent no more than a weak species-group of *Myrmecina*.

Incidentally, an interesting characteristic of some of these species is the extreme reduction of antennomere III, just distal to the pedicel. The distinction between "11-segmented" and "12-segmented" antennae in these forms may prove impossible to maintain as a key character.

Mann's tribe ARCHAEOMYRMECINI of course falls as a **new synonym** of Myrmeciniini.

Pristomyrmex

Pristomyrmex Mayr, 1866: 903. Type species: *Pristomyrmex pungens*, monobasic.

Hylidris Weber, 1941: 190. Type species: *Hylidris myersi*, by original designation. — 1952: 15-22. Synonymized by Brown, 1953: 9-10.

Dodous Donisthorpe, 1946: 145; worker, male, larva. Type species: *Dodous trispinosus*, by original designation. NEW SYNONYMY.

Dodous was based on the single species *trispinosus*, from Cocotte Mountain, Mauritius. Syntypes of this species deposited in the British Museum and in the Museum of Comparative Zoology are basically *Pristomyrmex* in form, but they have an extra pair of small teeth on the mesonotum, and the head and trunk are finely and regularly costulate (= striate). The larva, rather vaguely figured in the original description (fig. 4), has the elongate, protuberant head characteristic of *Myrmecina* and *Pristomyrmex*. Donisthorpe also figured the male, which is like known *Pristomyrmex* males in general habitus. The genitalia as very briefly described may be aberrant, but then the genitalia have not been studied at all in most other *Pristomyrmex* species.

A second species of *Dodous*, *D. bispinosus*, was described from Mauritius by Donisthorpe in 1949. I collected a small sample of strays of this species at the type locality, Le Pouce (Mountain) on 1 April 1969, the last day of a short stay on Mauritius. The specimens were all foraging workers taken on trees and on the main path through the scrubby native forest at about 800 m elevation on the "plateau" near the summit. (A sudden storm prevented my finding any nests.) *D. bispinosus* differs from *D. trispinosus* in lacking the mesonotal teeth (though actually some of my *bispinosus* specimens have low mesonotal tubercles in place of the teeth) and in having predominantly smooth and shining sculpture. In fact, *D. bispinosus* is a rather ordinary, if slightly long-legged, *Pristomyrmex*, and *D. trispinosus* goes only one step beyond. It seems absurd to put these two closely related species in different genera. Discovery of the annectant *D. bispinosus* makes it clear to me that *Dodous* is only the Mauritian complement of the widespread Old World genus *Pristomyrmex*. The concept of *Dodous* as a separate genus is, as far as I am concerned, as dead as its namesake.

I have already (Brown, *loc. cit.*) placed Weber's *Hylidris* as a synonym of *Pristomyrmex*. Weber opposed this synonymy, maintaining that *Hylidris* is a distinct genus. But when he described *Hylidris*, Weber took no note of the African species of *Pristomyrmex* described previously by Santschi, Arnold, and Karavaiev, at least some of which are senior synonyms of his own *Hylidris* species and

subspecies (Weber, 1952). Weber has never produced a characterization of *Hylidris* that will separate it as a genus from *Pristomyrmex*, and particularly from the long-synonymized "subgenus" *Odontomyrmex*. I have collected *P. orbiceps* in the Ivory Coast, and can affirm that colony behavior (lethisimulation), larval form, and general adult morphology are fully those of Asian and Australian *Pristomyrmex* as I have seen them in nature.

Pristomyrmex is a sharply defined and compact genus, and there is no reason that I know of to set the African species apart from it. In fact, the African species are as nearly "average" for the genus *Pristomyrmex* as one is likely to find.

Some other misconceptions explicit or implied in Weber's discussion of 1952 need correction. The petiole of *Pristomyrmex* has a distinct anterior peduncle, though it is short in some species. In contrast, the related genus *Myrmecina* has a sessile petiole of more or less prismatic shape. *Pristomyrmex* and *Myrmecina* are not very closely related to tribe Tetramoriini, though two species have been wrongly placed in tetramoriine genera in the past. The larvae, for one thing, are very different, and it seems that they may furnish the best tribal character for the Myrmecini if we limit the tribe to *Pristomyrmex*, *Myrmecina*, *Acanthomyrmex*, and possibly the little-known *Perissomyrmex* of Guatemala, the larvae of which have not yet been found. Tribe Tetramoriini is not "worldwide" in distribution, if one ignores obvious introductions by man. The tribe has no native species in South or Central America, and only a single species of *Xiphomyrmex* occurs in (Sonoran) North America.

Leptothorax subgenus *Nesomyrmex*

Nesomyrmex Wheeler, 1910, Bull. Amer. Mus. Nat. Hist., 28: 259. Type species *Nesomyrmex clavipilis*, monobasic.

Leptothorax (*Goniothorax*) auct., preoccupied.

Leptothorax (*Caulomyrma*) Forel, 1914, Bull. Soc. Vaudoise Sci. Nat., 50: 233.

Limnomyrmex Arnold, 1948, Occas. Pap. Nat. Mus. S. Rhodesia, 2(14): 222. — 1952, *Ibid.*, 2(17): 460, discussion. Type species *Limnomyrmex stramineus*, monobasic. NEW SYNONYMY.

Soon after its description, the late Dr. Arnold and I engaged in correspondence on the question of the distinctness of *Limnomyrmex* from the subgenus *Nesomyrmex* of *Leptothorax*. He stoutly maintained that *Limnomyrmex* was a good genus, and in 1952 (*loc. cit.*) he argued again in print for this stand. Now that I have finally

seen the unique worker type of *L. stramineus* in the Arnold Collection at Bulawayo, I can only place this species among the other known African *Nesomyrmex*. I have searched in vain for any characters that might set *Linnomymex* apart as a genus. In the form of the trunk and both petiolar and postpetiolar nodes, it is about "average" for a *Nesomyrmex* from Africa, and resembles in a subdued way some neotropical members of the group. Sculptural and a few other differences mark *stramineus*, but these do not seem to be more than species characters. The antennae of *stramineus* are 12-segmented; *Nesomyrmex* can have either 11 or 12 segments.

The status of *Nesomyrmex* as a subgenus of *Leptothorax* is maintained for the time being, pending the proper study of both taxa.

REFERENCES

- BROWN, W. L., JR. 1953. Characters and synonymies among the genera of ants. Part I. *Breviora* No. 11: 1-13.
- DONISTHORPE, H. ST. J. K. 1946. A new genus and species of Formicidae (Hym.) from Mauritius. *Proc. Roy. Entomol. Soc. London*, ser. B, **15**: 145-147.
- MANN, W. M. 1921. The ants of the Fiji Islands. *Bull. Mus. Comp. Zool.*, **64**: 401-499.
- MAYR, G. 1866. Diagnosen neuer und wenig gekannter Formiciden. *Verhandl. Zool.-bot. Ges. Wien*, **16**: 885-908, pl. 20.
- WEBER, N. A. 1941. Four new genera of Ethiopian and Neotropical Formicidae. *Ann. Entomol. Soc. Amer.*, **34**: 183-194.
- . 1952. Studies on African Myrmicinae, I (Hymenoptera, Formicidae). *Amer. Mus. Novitates* 1548: 1-32.